

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NE-02-AD; Amendment 39-12831; AD 2002-15-03]

RIN 2120-AA64

Airworthiness Directives; Hamilton Sundstrand Corporation Model 568F-1 Propellers.

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule, request for comments.

SUMMARY: This amendment supersedes an emergency airworthiness directive (AD) 2002-05-51 that was sent previously to all known U.S. owners and operators of Hamilton Sundstrand Corporation (formerly Hamilton Standard Division) model 568F-1 propellers. That AD requires replacement of propeller blades, part numbers (P/N's) R815505-2 and R815505-3, that have a serial number (SN) of FR1698 or lower, with serviceable propeller blades, a prohibition against installing any propeller blades, P/N's R815505-2 and R815505-3, that have a SN of FR428 or lower, that were previously installed on an ATR-42-400 or an ATR-72 airplane, on any other airplane, and initial and repetitive ultrasonic shear wave inspection of the blade tulip on installed blades P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower. This amendment requires those same actions, and also requires replacing certain SN blades before further flight. This amendment also requires initial and repetitive ultrasonic shear wave inspections of the blade tulip on installed blades, P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower until they are replaced. This amendment is prompted by a report of a blade failure that resulted in damage to the airplane. The actions specified in this AD are intended to prevent blade failure due to corrosion-induced fatigue, which could result in blade separation and possible loss of airplane control.

DATES: Effective August 9, 2002. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of August 9, 2002.

Comments for inclusion in the Rules Docket must be received on or before September 23, 2002.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), New England Region, Office of the Regional Counsel, Attention: Rules Docket No. 2002-NE-02-AD, 12 New England Executive Park, Burlington, MA 01803-5299. Comments may be inspected at this location, by appointment, between 8 a.m. and 4:30 p.m., Monday through Friday, except Federal holidays. Comments may also be sent via the Internet using the following address: "9-ane-adcomment@commat.faa.gov". Comments sent via the Internet must contain the docket number in the subject line.

The applicable service information may be obtained from Hamilton Sundstrand Propeller Technical Team, One Hamilton Road, Mail Stop 1-3-AB43, Windsor Locks, CT 06096-1010, U.S.A.; Fax 1-860-654-5107. This information may be examined, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Frank Walsh, Aerospace Engineer, Boston Aircraft Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone (781) 238-7158; fax (781) 238-7170.

SUPPLEMENTARY INFORMATION: On March 7, 2002, the FAA issued emergency AD 2002-05-51, applicable to Hamilton Sundstrand Corporation (formerly Hamilton Standard Division) model 568F-1 propellers installed with blades, P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower. That AD requires:

- Replacement of propeller blades, P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, with serviceable propeller blades.
- A prohibition against installing any propeller blades, P/N's R815505-2 and R815505-3, that have a SN of FR428 or lower, that were previously installed on an ATR-42-400 or an ATR-72 airplane, on any other airplane.
- Ultrasonic shear wave inspection of the blade tulip on installed blades P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, within 50 hours after receipt to that emergency AD.
- Repetitive ultrasonic shear wave inspection of the blade tulip on installed blades, P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, within 50 flight hours since-last-inspection.

That action was prompted by a report that a Hamilton Sundstrand propeller blade failed on an Aerospatiale ATR42-500 airplane. The failure occurred shortly after takeoff. The airplane was able to return safely to the point of departure. The position 5 blade failed outboard of the counterweight mounting flange. Additional damage to the propeller, engine, and nacelle was found. Root cause investigation has determined that the fracture began at an area of corrosion on the metallic portion of the blade just above and opposite the counterweight mounting flange. Engineering evaluation of the blade population that is susceptible to corrosion-induced fatigue has determined that the affected blades must be replaced to prevent blade failure. Subsequent investigation has determined that the suspect blade population must be inspected for fatigue cracks, due to corrosion pitting, using a repetitive ultrasonic shear wave inspection. This condition, if not corrected, could result in blade failure due to corrosion-induced fatigue, which could result in blade separation and possible loss of airplane control.

Manufacturer's Service Information

The FAA has reviewed and approved the technical contents of Hamilton Sundstrand Alert Service Bulletin No. 568F-61-A35, Revision 2, dated March 21, 2002, which provides procedures to perform the ultrasonic shear wave inspection of the blade tulip.

FAA's Determination of an Unsafe Condition and Required Actions

Since the unsafe condition described is likely to exist or develop on other propellers of the same type design, the FAA issued emergency AD 2002-05-51 to prevent blade failure due to corrosion-induced fatigue, which could result in blade separation and possible loss of airplane control. This AD requires:

- Replacement of propeller blades, P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, that are installed on ATR 42-400 and ATR 72 airplanes, with serviceable propeller blades before further flight.

- A prohibition against installing any propeller blades, P/N's R815505-2 and R815505-3, that have a SN of FR428 or lower, that were previously installed on an ATR 42-400 or an ATR 72 airplane, on any other airplane after the effective date of this AD.
 - Ultrasonic shear wave inspection of the blade tulip on installed blades P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, within 50 hours after the effective date of this AD.
 - Repetitive ultrasonic shear wave inspection of the blade tulip on installed blades, P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, within 50 flight hours since-last-inspection.
- The actions must be done in accordance with the service bulletin described previously.

Immediate Adoption of This AD

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

Comments Invited

Although this action is in the form of a final rule that involves requirements affecting flight safety and, thus, was not preceded by notice and an opportunity for public comment, comments are invited on this rule. Interested persons are invited to comment on this rule by submitting such written data, views, or arguments as they may desire. Communications should identify the Rules Docket number and be submitted in triplicate to the address specified under the caption ADDRESSES. All communications received on or before the closing date for comments will be considered, and this rule may be amended in light of the comments received. Factual information that supports the commenter's ideas and suggestions is extremely helpful in evaluating the effectiveness of the AD action and determining whether additional rulemaking action would be needed.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the rule that might suggest a need to modify the rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report that summarizes each FAA-public contact concerned with the substance of this AD will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 2002-NE-02-AD." The postcard will be date stamped and returned to the commenter.

Regulatory Analysis

This final rule does not have federalism implications, as defined in Executive Order 13132, because it would not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Accordingly, the FAA has not consulted with state authorities prior to publication of this final rule.

The FAA has determined that this regulation is an emergency regulation that must be issued immediately to correct an unsafe condition in aircraft, and is not a "significant regulatory action" under Executive Order 12866. It has been determined further that this action involves an emergency regulation under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979). If it is

determined that this emergency regulation otherwise would be significant under DOT Regulatory Policies and Procedures, a final regulatory evaluation will be prepared and placed in the Rules Docket. A copy of it, if filed, may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39—AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC



U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.airweb.faa.gov/rgl"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2002-15-03 Hamilton Sundstrand Corporation: Amendment 39-12831. Docket No. 2002-NE-02-AD. Supersedes AD 2002-05-51.

Applicability: This airworthiness directive (AD) is applicable to Hamilton Sundstrand Corporation (formerly Hamilton Standard Division) model 568F-1 propellers installed with blades, part numbers (P/N's) R815505-2 and R815505-3, that have a serial number (SN) of FR1698 or lower. These propellers are installed on, but not limited to, Aerospatiale ATR 42-400 and -500 and ATR 72 airplanes.

Note 1: This AD applies to each propeller identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For propellers that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (i) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance

Compliance with this AD is required as indicated, unless already done.

To prevent blade failure due to corrosion-induced fatigue, which could result in blade separation and possible loss of airplane control, do the following:

- (a) For propeller blades P/N's R815505-2 and R815505-3, replace propeller blades SN FR265 or lower before further flight.
- (b) Before further flight, replace propeller blades P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, installed on ATR 72 and ATR 42-400 airplanes.
- (c) After the effective date of this AD, do not install any propeller blade that was removed in accordance with paragraph (b) of this AD on any airplane.
- (d) Replace propeller blades P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, installed on ATR 42-500 airplanes, before December 31, 2002.

(e) After the effective date of this AD, do not install any propeller blades, P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, on any airplane unless an ultrasonic shear wave inspection of the blade tulip is done in accordance with the Accomplishment Instructions of Hamilton Sundstrand ASB 568F-61-A35, Revision 2, dated March 21, 2002, before installation of the propeller blade.

(f) Procedures for removing the propeller blade and installing a serviceable blade can be found in Hamilton Sundstrand Maintenance Manual P5206.

(g) Within 50 FH since-last-inspection, for propeller blades, P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, perform an ultrasonic shear wave inspection of the blade tulip in accordance with the Accomplishment Instructions of Hamilton Sundstrand ASB 568F-61-A35, Revision 2, dated March 21, 2002, and remove blades with unacceptable indications in accordance with the ASB.

(h) Thereafter, within 50 FH since-last-inspection, for propellers blades P/N's R815505-2 and R815505-3, that have a SN of FR1698 or lower, perform an ultrasonic shear wave inspection of the blade tulip in accordance with the Accomplishment Instructions of Hamilton Sundstrand ASB 568F-61-A35, Revision 2, dated March 21, 2002, and remove blades with unacceptable indications in accordance with the ASB.

Optional Terminating Action

(i) Replacement of propeller blades, P/N R815505-2, with propeller blades, P/N R81505R2; or propeller blades, P/N R815505-3, with propeller blades, P/N R815505R3, constitutes terminating action for the repetitive inspection requirements specified in paragraph (h) of this AD.

Alternative Methods of Compliance

(j) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Boston Aircraft Certification Office (ACO). Operators must submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Boston ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Boston ACO.

Special Flight Permits

(k) Special limited flight permits may be issued in accordance with §§ 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) for a nonrevenue flight to a location where the requirements of this AD can be done.

Documents That Have Been Incorporated By Reference

(l) The actions required by this AD must be done in accordance with Hamilton Sundstrand Alert Service Bulletin No. 568F-61-A35, Revision 2, dated March 21, 2002. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Hamilton Sundstrand Propeller Technical Team,

One Hamilton Road, Mail Stop 1-3-AB43, Windsor Locks, CT 06096-1010, U.S.A.; Fax 1-860-654-5107. Copies may be inspected, by appointment, at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(m) This amendment becomes effective August 9, 2002.

Issued in Burlington, Massachusetts, on July 15, 2002.

Jay J. Pardee,

Manager, Engine and Propeller Directorate, Aircraft Certification Service.

[FR Doc. 02-18481 Filed 7-24-02; 8:45 am]

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